Grange Urban District Council.

Annual Report of the Medical Officer of Health

1943.

Gentlemen,

I have the honour to present the Annual Report for 1943 on the sanitary circumstances, administration and vital statistics of your district. It is shorter than would have been the case in peace time to comply with the instructions of the Ministry of Health that such reports should be curtailed during the period of the war.

Situated in the Furness Area of Lancashire, on the shore of Morecambe Bay, in the heart of one of the most beautiful parts of England, Grange-over-Sands has many natural advantages which render it deservedly popular as a place of residence and as a health and holiday resort renowned for its distinction and charm.

Statistics, 1943.

Area of District	1884½ acres.
Number of Inhabited Houses	814
Rateable Value	£27,619
Amount produced by Penny Rate	£111.

Vital Statistics.

BIRTHS.

There were 20 births, 10 male and 10 female, giving a birth-rate of 7.2 per 1,000, compared with a rate of 16.5 for England and Wales.

DEATHS.

Fifty-two deaths of residents were registered during the year giving a death rate of 18.7 per 1,000, compared with 51 deaths and a rate of 18.5 per 1,000, in 1942. The age periods at which the deaths occurred were;-

Under 1	1-5	5-10	10-15	15-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-
				1	1		5	10	21	12	2	

It will be observed that only two of the deceased were under 50 years of age, while two succumbed at the advanced age of 90. Sixteen of the deaths occurred in the first quarter of the year, thirteen in the second, six in the third and seventeen in the fourth

The causes of death were;-

Heart Disease	12	Cancer	7
Arteriosclerosis	6	Pulmonary Tuberculosis	2

Cerebral Haemorrhage	1	Pneumonia	4
Cerebral Thrombosis	2	Influenza	4
Coronary Thrombosis	1	Bronchitis	2
Pulmonary Embolism	1	Gastric & Duodenal Ulcer	2
Nephritis	4	Diabetes	1
Kidney Disease	1	Misadventure	1
Uraemia	1		

Of the 7 persons who died from cancer, 3 were males and 4 females. One male, aged 61, died from cancer of the bronchus; the second, aged 66, from cancer of the base of the skull and naso-pharynx, and the third, aged 75, from cancer of the colon. Two females, aged respectively 72 and 80, died from cancer of the breast; and two aged respectively 64 and 73 from cancer of the bowel.

Infectious Diseases.

Incident of Infectious Disease during the five years 1938-1942 compared with that for 1943.

Disease	1938	1939	1940	1941	1942	1943 No. of cases.	1943 Removed to Hospital.	1943 Died in Hospital
Scarlet Fever.	2		1	1	11	2	2	
Diphtheria	1							
Erysipelas	1							
Pneumonia	1		1	2	3	5		
Measles		1	14	14	13	14		
Whooping Cough			2	30	1			
Bacillary Dysentery					13			
Puerperal Fever					1			
Totals	5	1	18	47	42	21	2	Nil.

The position in respect of infectious diseases during the year under review was upon the whole satisfactory. The outstanding feature was the incidence of measles. Outbreaks of this disease occur from time to time, and, unfortunately, nothing can be done to avert them. As the infection is generally spread during the early catarrhal stage of the illness, (when the patient appears to have nothing more than a severe dose of cold) before the rash appears,

and before a diagnosis has been made, prevention of the malady is rendered almost impossible by the usual methods of control. School closure is of little avail as a preventive measure on account of the many opportunities of acquiring infection outside of the school

It is a mistake to assume, as many parents do, that measles is a trivial complaint. Far from being trivial, it is the most fatal of all diseases in children under 5 years of age. The importance, therefore, of doing everything possible to protect "toddlers" from measles infection cannot be too strongly emphasised The longer an attack of measles can be postponed, the better for the child. Mortality in measles is due, not so much to the disease itself, but to complications which may supervene, such as broncho-pneumonia, bronchitis, otitis media etc. A doctor should always be called as soon as measles is suspected. The patient should be isolated from other children and kept warm in bed. Careful home-nursing throughout the illness is essential. The adoption of these simple precautions will go far, not only to save life, but also to ensure that the patient makes a satisfactory recovery and does not subsequently suffer from respiratory orother troubles which impair health and vigour and undermine the constitution of the child.

Immunisation against Diphtheria.

During 1943 a total of 115 children completed the full course of immunisation. Namely 17 under 5 years and 98 between the ages of 5 and 15 years. At the end of the year it was estimated that 51.2 per cent of the child population under 5 years of age and 90.9 of those between the ages of 5 and 15 had been protected against attack by diphtheria by means of immunisation.

We are indebted to the Headmaster of the Church of England School, Mr. Berry, and his staff for their valuable assistance in acheiving the results to which reference is made above.

Laboratory Work.

The Laboratory work of the district is now carried out at the Ministry of Health Emergency Pathological Service Laboratory, which has been established at the High Carley Sanatorium. The Council are fortunate in being able to avail themselves of a first class service provided by a laboratory situated within easy reach of Grange. This means that speci mens for examination reach High Carley in a condition to ensure satisfactory investigation and reliable results. But it means more, consultation between the clinician and the laboratory expert is often advantageous. In the skilled Pathologist and Bacteriologist to the Laboratory Dr. Brundret, medical men practising in the area have a very helpful colleague with whom they can confer on all cases of doubt or difficulty.

As your temporary M.O.H., I should like to express my appreciation of the valuable assistance which your Public Health Department has invariably received from Dr. Brundret.

Tuberculosis.

New Cases and Mortality During 1943.

Age Periods	New Cases				Deaths.			
	Respiratory		Non-Respiratory.		Respiratory.		Non-Respiratory.	
Years.	M	F.	M	F.	M	F.	M	F.
0-								
1-								
5-								
10-								
15-								
20-	1		1		1			
25-	2	1						
35-		1			1			
45-								
55-								
65 and Upwards		1						
Totals	3	3	1	0	2	0	0	0

Sanitary Supervision

It has been a pleasure to be associated with your Surveyor in the sanitary supervision of the district. The work undertaken by him in this respect is summarised below;-

Informal Notices Issued	7
Rat Complaints dealt with	5
Eaves gutters repaired	1
House drains cleared	6
" " repaired	3

House roof made tight	1
Privy demolished and W.C. provided	1
Dairies and Cowsheds inspections	20
School milk samples taken	3
Offensive trade inspections	3
Rooms disinfected	15
Bug infestations dealt with	2
Bedding destroyed	2
Meat unfit for sale	150 lbs.
Fish " " "	70 lbs.
Vegetables unfit for sale	60 lbs.

Rainfall

Year	First Quarter.	Second Quarter.	Third. Quarter.	Fourth Quarter.	Total.
1933	12.01	7.91	8.42	8.90	37.24
1934	10.86	13.20	14.89	16.57	55.52
1935	10.63	12.54	17.21	18.80	59.18
1936	12.12	6.94	15.94	18.43	53.43
1937	12.69	9.39	11.47	8.59	42.14
1938	11.21	11.33	15.88	24.05	62.47
1939	13.17	8.20	13.62	13.19	48.18
1940	9.16	5.35	12.54	17.61	44.66
1941	9.68	6.69	9.78	13.93	40.08
1942	8.12	7.89	17.08	14.50	47.59
1943	12.55	12.36	19.72	13.30	57.93
Average for 33 years.	12.446	9.485	15.096	16.557	53.585 ins.
Average of four consecutive driest years 1939-1942.	10.0325	7.0325	13.2550	14.8075	45.1275 ins.

Water Supply

The circular of the Ministry of Health on Annual Reports of Medical Officers of Health for 1943 requires such reports to contain a statement as to the sufficiency and quality of the water supply of the area and of its several parts etc.

Grange is supplied with upland surface water derived from open moorland, at an elevation of from 580 to 800 feet above O.D., grazed almost entirely by sheep. None of the land is cultivated. During the year 1943, save at a few of the higher points in the area of supply, where, from one cause or another, failure, or partial failure, occurred from time to time, your water supply proved adequate to meet the ever increasing demands made upon it.

In May a number of the water mains were subjected to treatment with "Clensol" to remove "furring". The deposit in the mains, which was shown, on analaysis, to be essentially organic in nature, had impeded the flow of water and given rise to inadequate supplies and reduced pressure in some of the areas served.

At the water works near Newton there are two reservoirs, No.1 and No.2, with a capacity of 23,000,000 and 10,500,000 gallons respectively. Their water supply is derived, partly from a gathering ground of 120 acres in their vicinity and also from a detached area of 225 acres, known as Chapel House Plantation, situate 1½ miles due north of the reservoirs. Water from the latter is conveyed to No.1 reservoir by a six inch main supplemented by a 10 inch main, which was completed in 1941.

No. 2 reservoir empties into No.1 and all water drawn for the use of consumers passes through No.1. Prior to distribution, the water is filtered in Pennell-Wylie Patent Upward Flow Filters, having a capacity of 480,000 gallons per day, and is subsequently chlorinated by a Wallace Tieman apparatus, using liquid chlorine, before passing to the filtered Water storage tank of 140,000 gallons capacity. A 7 inch main conveys the water to Grange via Newton and Lindale to the north end of the Urban District and a 6 inch main via Barber Green, Broughton East and Cartmel over Grange, Fell to the west of the Urban District. Both mains feed the distributing mains in Grange. Villages in the Rural District are supplied en route, distributionbeing in the hands of the Rural Council.

There are three service reservoirs near Grange;- Windermere Road, north of Grange, 150,000 gallons, 2) Hamsfell, west of Grange, 200,000 gallons, 3) Wartbarrow, south of Grange, 200,000 gallons.

These serve as reservoirs in case of interruption in the trunk mains, also for equalising the demand and in one case for reducing pressure in the distributing mains.

Results of Chemical and Bacteriological Examinations.

The results of recent chemical and bacteriological examinations of the water are given below;-

5.8.43.

Colour	Brown.
Turbidity	Nil
Oxygen absorbed	0.235
Free and Saline Ammonia	0.0014
Albuminoid Ammonia	0.0126
Nitrous Nitrogen	Nil
Nitric Nitrogen	0.00.
Chlorides	1.3.

Total Hardness	4.0
Reaction PH	9.0
Action on Lead	0.08
" " Metals	Nil
Aerobic Micro-organisms in 3 days at 22°C	5,500
" " " " 2 days at 37°C.	4.

Bacterium Coli not found in 100c.c.

28.9.43

Total solids in solution	6.40
Oxygen required to oxidise in 15 mins	0.099
" " " " " 3 hours	0.197
Ammonia	0.001
Ammonia from organic matter	0.008
Nitrates	none
Nitrites	none
Combined Chlorine	1.00
Total Hardness	3.3
P.H. Value	8.2

17.1.44

Colour	Faint Brown
Turbidity	Nil
Taste	Faint earthy
Smell	Indistinct
Lead Solvency, 24 hours	0.5 parts per million

	Parts per 1,000.
Free and Saline ammonia	0.0006
Albuminoid Ammonia	0.004
Nitrites	nil
Nitrates	0.1
Chlorine	1.5
Equal to Sodium Chlorine	2.46
Oxygen consumed 15 minutes	0.109
Oxygen consumed 4 hrs	0.210
Total Hardness ($CaCo_3$)	5.29
Total Solids	8.60

Organisms growing on nutrient gelatin at 15°C	50
" " " " agar " 37°C	55
Organisms of the faecal group	Absent.

"This sample shows a decided improvement on any of the samples recently tested. The low Albuminoid Ammonia content is a clear indication of a decrease in peaty matter in the water and the low bacterial count together with the abscence of Bacillus coli is very satisfactory The hardness however, is still very low and some improvement in the lime content would certainly be of advantage" H. Horace Ward.

Bacteriological Examination.

	29. 6. 43.	6.7.43.	15.9.43	7.10.43	25.10.43.
Probable No. of coliform organisms per 100c.c.	1	1	0	3	0
Colonies per 1c.c. after 2 days at 37°C.	5	6	5	2	0
Colonies per 1c.c. after 3 days at 22°C.	540	980	210	320	280

The Grange water works supply not only the Urban District of Grange but also Newton, Lindale and the Cartmel Valley Area of the adjoining Ulverston Rural District, To meet the needs of this joint area requires an average supply of 420,000 gallons per day. The average daily consumption of water has increased during the past five years from 330,000 to 420,000 gallons

In 1928 the Rural District Council purchased land known as Simpson Ground in the vicinity of the Grange gathering ground with a view to providing a water supply of their own and employed the consulting engineer, Mr. Silcock, to prepare a scheme for the purpose. A local inquiry was held by an Engineering Inspector of the Ministry of Health on the 10th April 1929. In a letter dated the 27th May, 1929, addressed to the Clerk of the Ulverston Rural District Council the Ministry of Health stated that "the Report made by Mr. Stanford following the local inquiry on the 10th ultimo with reference to the application of the Ulverston Rural District Council for sanction to borrow £16,000 for works of water supply in the contributory places of Upper Allithwaite, Broughton East, Lower Allithwaite and Lower Holker has been under consideration and the Ministry are satisfied that there is need of an additional supply to these parishes".

"It appears however that the scheme includes the duplicating of mains of considerable length which are now being used jointly by the Rural District Council and the Grange Urban District Council and the Ministry would not feel justified in sanctioning expenditure on the duplication of existing mains and other works in the absence of definite proof that they were absolutely necessary. Moreover the Ministry understood that the Grange Urban District Council may also require an additional supply in the near future and in these circumstances it appears to the Ministry that there would be considerable advantage if the two Local Authorities were to combine for the purpose of increasing the supply and of utilizing the distribution scheme jointly".

"This might be done by combination under Section 285 of the Public Health Act, 1875, or by the formation of a Joint Water Board by Provisional Order under Section 279 of the same Act, and I am to suggest that the Rural District Council should communicate with the Grange Urban District Council (to whome a copy of this letter has been sent) with a view to an agreement being arrived at for joint action."

The two Councils have not yet combined as suggested, for the joint management of the water undertaking, but, with a view to increasing the supply, agreement was reached in 1930 between the two Authorities, whereby the Grange Council were authorised (a) to construct an intake chamber on Simpson Ground and draw water from the Way Beck and (b) to lay a 6 inch water main through Simpson Ground for the purpose of conveying water to the Newton Reservoir. Wayleave and right of way over Simpson Ground was granted for the purpose of constructing and maintaining the said intake chamber and water main. This main was supplemented by a 10 inch main in 1940, which conveys water from the Grange Council's property of Chapel House Plantation to Newton Reservoir.

In recent years shortage of water has at times, been experienced in the areas supplied by the Grange Water Works, due to low rainfall coinciding with increasing demand. This was particularly marked during the three years 1939, 1940 and 1941 in which the rainfall was much below the average. The Grange Council installed a pump connected to the mains at a spring situated at the lowest point of distribution, but the supply thus obtained was in itself insufficient to meet more than a proportion of the demand. Moreover difficulty was experienced in getting water to the higher levels. The Ulverston Rural District Council also installed a pump, connected to the mains, at a spring in the Rural District near the village of Cartmel. The pump was subsequently moved, first to one well, and then to another in a field adjoining Ivy Cottage. This pump was in operation for long periods during the years in question. In 1942 for the fourth consecutive year, the rainfall was below the average, but the 10 inch main laid from Chapel House Plantation to No.1 reservoir, completed in 1941, had by that time increased the quantity of water in the reservoirs, which enabled them to maintain throughout the year, an adequate supply to all but a few houses situated at a high elevation. Water was however pumped during the summer of that year from the Rural District Council's well at Ivy Cottage chiefly for the purpose of maintaining sufficient pressure in the mains to reach 7 houses at a high elevation in the Rural District known as the Haggs. A hydrostat was subsequently installed at Ivy Cottage by the Grange Council with a similar object in view.

In view of the circumstances enumerated above, which indicate the urgent need of augmenting the water supply, the Grange Council employed, as Consulting Engineer, Mr. H. B. Ward, to prepare a

scheme for the purpose. Mr. Ward's scheme has, after very careful consideration, been approved by the Council and submitted to the Ministry of Health with a view to their sanction being obtained so that the work may be commenced as soon after the cessation of hostilities as circumstances permit.

Briefly it is proposed to increase storage at the Grange water works by the construction of a third impounding reservoir, on an area of approximately 11 acres on Simpson Ground Moss. The site of the proposed reservoir is eminently suitable for the purpose, being a saucer like formation surrounded by hills. The reservoir will have a capacity of 45 million gallons, which will ensure that the fullest possible use is made of the available water supply. The existing 10 inch main will provide the means of transferring water from the proposed new reservoir to the works at Newton. If this scheme is carried out, it will more than double the storage capacity at the Grange Water Works and so enable water to be conserved during periods of heavy rainfall instead of running to waste as heretofore.

Dairies and Cowsheds.

There are 11 cowkeepers in the district engaged in the production of milk for sale, eight of whom are producer-retailers. There is one producer of Accredited Milk. The farm buildings are not generally of a high standard, but, owing to the shortage of labour and materials, little can be done to effect improvements in this respect during war-time. In some instances there is no separate dairy in which milk can be cooled and stored, the farmhouse kitchen, or scullery being used for the purpose in contravention of the requirements of the Milk and Dairies Order, 1926.

In the circumstances which obtain at some of the farms it cannot be easy to attain and maintain, a high standard of milk production The position is aggravated by the "blackout" regulations, by the difficulty in obtaining labour, and by the greater acreage which has to be brought under the plough as a war-time necessity. Notwithstanding all these difficulties, a determined effort appears to be being made by the majority of farmers to produce milk of as high a standard as circumstances permit.

Public Cleansing.

The removal of house refuse is undertaken by the Council, and notwithstanding shortage of labour and transport, is effectively performed. Salvage is regularly collected and disposed of for national use.

Sewarage and Drainage.

Sewage and rainwater are dealt with on the combined system.

Ambulance Facilities.

These appear to be adequate to meet the needs of the area.

In conclusion, I should like to express my thanks to your Surveyor for his valuable co-operation and to the Council for their much appreciated kindness, and support.

I am, Gentlemen,

Your obedient servant,

Hugh A. Macewen, M.B. Ch.B.
D.P.H. (R.C.P.S.Lond.) D.P.H.(Camb.)F.R.S.E.